

Claims

1. A device for predistorting an input signal at an amplifier means (30), comprising a storage means (51) for storing phase values, and a phase offset adding means (50) for phase-shifting the input signal, characterized in that the storage means (51) and the phase offset adding means (50) are connected to a controller (52), which is adapted to retrieve at least one phase value from the storage means, and output an offset signal comprising the retrieved phase value to the phase offset adding means (50), which is adapted to add said offset signal to the input signal.

2. The device according to claim 1, wherein the storage means comprises a lookup table (53a, 53b, 53c) comprising different gain levels and associated phase values, and the controller (52) is adapted to retrieve a phase value from the storage means (51) corresponding to a given gain level of the amplifier means (30).

3. The device according to claim 1, wherein the storage means (51) is a memory comprising a look-up table (53a, 53b, 53c) comprising phase values relating to the change of the gain level of an amplifier means (30) from a first gain level to one or more additional gain levels.

4. The device according to claim 3, wherein the memory is rewritable.

5. The device according to claim 1, wherein the phase offset adding means (50) is a complex multiplier.

6. The device according to claim 1, wherein each phase value stored in the storage means (51) corresponds to the change in phase of the output power when the gain level

of the amplifier means (30) is changed from a first gain level to a second gain level.

7. The device according to claim 6, wherein the first
5 gain level is the lowest gain level, and the second gain level is any other gain level of the amplifier means (30).

8. The device according to claim 1, wherein the device further comprises a temperature sensing means (60)
10 connected to the controller (52) for deriving a temperature or a temperature interval, and the storage means (52) comprises a lookup table (53a, 53b, 53c) comprising gain levels and associated phase values for different temperatures or different temperature intervals, and the
15 controller (52) is adapted to retrieve a temperature dependent phase value from the storage means (51) corresponding to a temperature or temperature interval and a given gain level of the amplifier means (30).

20 9. The device according to claim 1, wherein the device further comprises a frequency indicator (70) for deriving an operating frequency value or an operating frequency interval value, and the storage means (52) comprises a lookup table (53a, 53b, 53c) comprising gain levels and associated phase values for different frequencies or different frequency intervals, and the controller (52) is adapted to retrieve a frequency dependent phase value from the storage means (51) corresponding to a frequency or frequency interval and a
25 given gain level of the amplifier means (30).

30 12. A method for predistorting an input signal at an amplifier means (30) comprising a storage means (51), characterized by the steps of:

retrieving a phase value from a lookup table (53a, 53b, 53c) of the storage means (51) in response to changing the gain level of the amplifier means (30); and
5 adding an offset signal having a phase value corresponding to the retrieved phase value to said input signal.

13. The method according to claim 12, wherein the step of retrieving further comprises the steps of:
10 receiving a new gain level of the amplifier means (30); and
retrieving a phase value associated with the new gain level from the look-up table (53a, 53b, 53c) of the storage means (51).

15 14. The method according to claim 12, wherein the phase value corresponding to the basic gain level is zero.

15. The method according to claim 13, wherein the step of retrieving further comprises the steps of:
20 obtaining a temperature value or a temperature interval value; and
retrieving a temperature dependent phase value associated with the new gain level and the temperature or
25 temperature interval from the lookup-table (53a, 53b, 53c) of the storage means (51).

16. The method according to claim 13, wherein the method comprises the further steps of:
30 obtaining a frequency value or a frequency interval value; and
retrieving a frequency dependent phase value associated with the new gain level and the frequency or
frequency interval from the look-up table (53a, 53b, 53c)
35 of the storage means (51).

17. An electronic apparatus comprising a device (46) for predistorting an input signal at an amplifier means (30) according to any of the claims 1-11.

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18. The apparatus according to claim 17, wherein said equipment is a mobile terminal, a pager, or a communicator.

19. The apparatus according to claim 17, wherein the
10 equipment is a mobile telephone.